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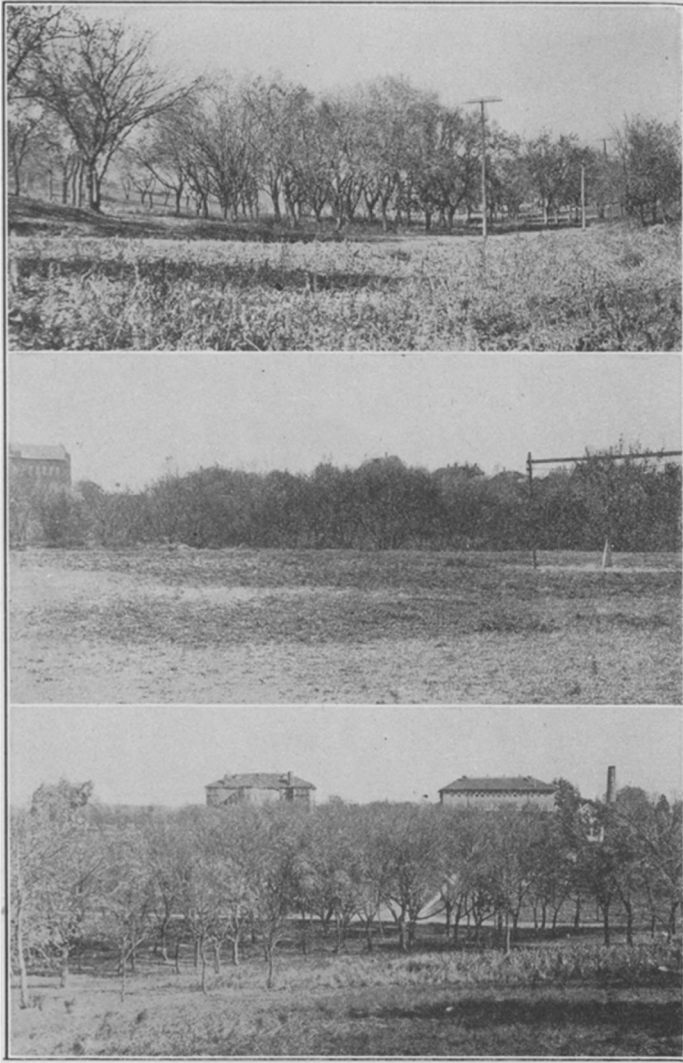
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THE SITE OF THE ROOST.

Upper, from the South-east. Middle, from the North-east.
Lower, from the West.

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NOTES ON A NORTHERN ROBIN ROOST.¹

BY ARTHUR R. ABEL.

The Robin roost to be here described was located within the city limits of Sioux City, Iowa, in fact in a rather closely built up district of the city. The flight to the roost was first noticed about August 7, 1914, although no record was made at this time.

However, by the fifteenth the regularity of the flight had been noted and it was decided to determine its origin and destination. At this time the birds were flying in considerable numbers, from northeast to southwest, over Newton St. and the College Campus. On this evening the flight was watched on Newton St. from 7:15 to 7:28 when the flight practically ceased, and eighty-five birds had been counted.

On the evening of August 16th, the birds were first noticed at 6:50, and from this time to 7:30 110 birds flew over the route. By the thirtieth the numbers were considerably augmented, and I had planned to work over toward the northeast in hope of ascertaining how far they came.

Accordingly I left about six o'clock and went northeastward until I reached the ravines north of Morningside known as North Ravines. The country here was very hilly and the

¹ Read before The Sioux City Bird-Study Club, Nov. 3d, 1914.

flocks were seen first as they came over the ridge of the hills. I kept on going northeastward thinking that each hill concealed the ravines where the flocks formed. Each time however I was disappointed and was forced to go still farther on, until at last about dark I saw a few flocks fly out of a ravine about one and one-half miles from Newton St. This however did not prove to be the source of the supply for the next day about noon this ravine was deserted, proving that the flocks stopped only for a brief rest. On the same evening (the 30th.) we were surprised to find many kingbirds flying over the same route. The kingbirds, however, flew somewhat earlier than the Robins, although part of the time the flight was a mixed one. The last of the flight consisted entirely of robins, which flew until it became dark.

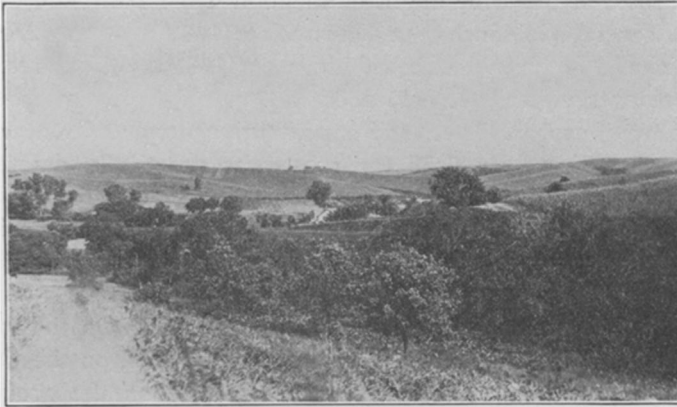
The Robins flew faster and with more rapid wingbeats than the Kingbirds. The observations of this evening made clear that the flocks gathered over a very large territory, and were formed by additions from the many ravines east of town. A word of explanation might be made as to the use of the term "flocks" in this connection. At the best time of the flight the birds came stringing in almost continuously, sometimes singly or in pairs, and sometimes in groups of from ten to twenty; often it required alertness to keep the count correctly. On the evening of the thirtieth, at a point about two miles west of where the roost was subsequently found, I counted 226 robins and 93 kingbirds.

On the next evening I went in the opposite direction, and found at some distance southwest of the college, the robins were flying in a direction reverse to that of the night before; this suggested that the roost might be nearer to the college.

On the evening of Sept. 1st, the roost was located in a small wooded hollow adjoining the athletic field. The central clump was composed of about fifty rather tall box-elder trees, pretty well crowded together so that the foliage was dense enough and high enough to afford protection and shelter. To the north there were a good many scattered trees, but on the east there was a large open space occupied by the athletic field,

which afforded an excellent place for counting. To the south-east there were a good many trees but they seemed to disregard them and fly directly over. At 6:27 p. m. most of the birds had congregated, and a few Kingbirds were also seen among the robins.

On the evening of Sept. 2, the roost was visited at 6:30 and only four Robins were counted in the trees. The first birds to fly in from the east came at 6:43 and from this on they came in from the east with rapidity until 7:30 when it became too dark to see or count them. By this time we had counted 302 Robins entering the roost from the north and east.



TERRITORY WHERE THE FLOCKS GATHERED.

Typical ravine in which Robins feed during the day.

The Kingbirds had vanished—none were to be seen, although a single one was seen in the roost early the next morning. The cold night of Sept. 1st, had probably been too much for them. It was decided to visit the roost early the next morning in order to see how it would break up. So at 3:45 A. M. we were on the ground, but everything was so quiet and dark and cold that we sought shelter. Returning at 4:55, we heard the first Robin chirp at 5:05. At 5:10 several flew silently from outside trees to the main roost. At 5:15 we

could say that morning had dawned, and a chorus of chirps and calls began which did not quiet down until the roost had been vacated. At 5:21 the first bird flew out. At 5:22 the calling became much louder, and we heard the call which can be best expressed by "whe-ap." At 5:25 the disturbance became quite general and there was considerable uproar, and much flying about among the trees.

At intervals about twenty-one mourning doves flew from outside trees and the main roost. At 5:20 a Blue Jay called and was answered two or three times by other Blue Jays; this seemed to stir the Robins up a little, and they began to leave in large numbers. Among other birds heard in and about the roost at this time might be mentioned the Baltimore Oriole, several Goldfinches, a Downy Woodpecker, and several Chickadees; while on Sept. 24th, about 100 Blue-birds rested there over night. At 5:45 about a hundred Chimney Swifts appeared, probably coming from a large chimney of a nearby schoolbuilding. By 6:50 the roost was practically deserted except for two or three Robins which had been stunned by flying into telephone wires. The great majority of the Robins on leaving the roost, flew out a short distance, alighting in other trees or on wires, where they seemed to take a brief rest before proceeding to the feeding grounds. On the way from the roost the Robins were seen on all sides, on the College Campus, in private yards; many were on the ground feeding, others were perched in trees and on the roofs of houses. No doubt the birds gradually dispersed to the outer limits of their feeding range, for by ten o'clock they had disappeared from the immediate neighborhood.

On Sept. 4th, an effort was made to count the Robins arriving from the south, as well as from the north; at this time 362 birds were counted, in a similar manner 558 were counted on the evening of the eighth.

On Sept. 9th, a heavy rain fell throughout the day, in fact it was said to be the heaviest rain in sixteen years; darkness settled rather early in consequence of the cloudiness. Although watching under these circumstances was uncom-

fortable it seemed advisable to ascertain what effect the weather conditions would have upon the flight. The first Robin flew into the roost at 5:47; they now followed regularly at intervals of two or three minutes, at 6:06 thirty birds flew in. The watch was now discontinued, as it seemed that the only noticeable change was that the flight started fifteen or twenty minutes earlier than usual. But as there was no cessation in the steady and almost uniform downpour this is attributed to the earlier twilight.

It was thought desirable to attempt a complete census of the birds arriving from all directions. Accordingly on the evening of Sept. 11, a number of members of the Sioux City Bird Study Club visited the roost and assisted in the counting. It was thought that all the birds could be observed by establishing three stations, as follows: the writer undertook to watch the flight from the west; the southeast quadrant was watched by Dr. Stephens and Mr. Fields; and the northeast quadrant was watched by Mrs. Fields and Miss Hood. Altogether 761 Robins were counted as they entered the roost from all directions.

The following table shows the only complete census that we made:

Time	West	Northeast	Southeast	Total
6:04		2		2
6:08		2		2
6:15	3	2		5
6:16			2	2
6:17	5		5	10
6:18		1	1	2
6:19		2	2	4
6:20		16	1	17
6:21		6		6
6:22		19	1	20
6:23		2		2
6:24		7		7
6:25		3		3
6:26		15		15
6:27		2		2
6:28		4		4

Time	West	Northeast	Southeast	Total
6:29		7		7
6:30	1	24		25
6:31		3		3
6:32	6	27		33
6:33		18		18
6:34	1	8	11	20
6:35	1	2	4	7
6:36		4		4
6:37		45		45
6:38		46	21	67
6:40		17	31	48
6:41		21	28	49
6:42		4	25	29
6:43	1	7	23	31
6:44		10	28	38
6:45		9	11	20
6:46	4	32	20	56
6:47	2	24	19	45
6:48		12	16	28
6:49		3		3
6:50		9		9
6:51		6	7	13
6:52		9		9
6:53		10	3	13
6:54		9		9
6:55	3	3	4	10
6:56			1	1
6:58		8		8
6:59		2		2
7:03		1	2	3
7:05			1	1
7:06		2		2
7:09		1	1	2

Total...761

It is believed that this count is approximately correct, i.e., probably not more than a hundred birds were missed in the counting. Of course to one who is witnessing the flight, without attempting to make a count, there would probably come temptation to estimate them by the "thousands"; a flock of even several hundred birds presents quite an imposing array.

From this time observations were made only on the North-east quadrant, and there seemed to be a very rapid decrease in numbers. Since a complete census was not attempted later it will probably be best not to give any incomplete figures. Suffice it to say that the observations were made every three or four days until the middle of October. After Sept. 27 there were only scattered individuals; and on Oct. 16 none flew in from any direction.

It seems to be a regular habit of Robins to roost in immense flocks in their winter homes in the south, and there are numerous published accounts of the wanton slaughter of them under such circumstances. But if it is their habit to roost thus at the close of their breeding in the north, before the fall migration, it does not seem to be very generally recognized.

Mr. Wm. Brewster published nearly twenty-five years ago,¹ a most admirable account of several "Summer Robin Roosts" near Cambridge. His observations on the behavior of the birds were so complete that little can now be said in addition. The present paper must be largely in the nature of a confirmation.

Our observations agree in that the flight was not equal in all directions, and that various other species of birds, in small numbers, often became associated with the Robins in the roost.

Mr. Brewster also discusses the matter of the composition of the roost as to the sex, and gives some reasons for thinking that the summer roosts are made up of the males and young of the first broods of the year. Fisher² also expresses his belief that the fall roosts of the Barn and Bank swallows consisted of males. I have been unable to make any positive observations on this point; but, in as far as the lighter color of the breast is indicative of sex, I should incline to the opinion that the roost under my observation contained a fair proportion of females.

The manner of flight to the roost seems to be distinctive in

¹The Auk, 7, 1890, pp. 360-373.

²The Observer, 7, 1896, pp. 382-384.

some birds. Dr. Jones¹ found that the Grackles formed in rather definite and compact hosts, even remaining together while feeding during the day. It is not this way with the Robins. Their flight is more like a continuous stream, now broad enough to fill a considerable segment of the horizon, now narrowed to a single individual; sometimes even ceasing temporarily.

As would be supposed the birds flew close to the ground on dark cloudy days and much higher on clear sunlight evenings.

The birds seemed guided in flying by the conditions of light and if the darkness came earlier the flight was correspondingly early. The height of the flight lowered as darkness came on so that at dusk the Robins were skimming along close to the ground swerving from side to side in avoiding the numerous obstacles. When flying high the birds maintained about the same level until directly over the roost then darting down with set wings to the topmost branches where they hesitated a minute or two before diving down into the depths of the foliage. The first arrivals seemingly realizing that they were early occasionally went off to the nearby alfalfa and corn fields to feed, returning about dusk to roost. Then for a few minutes a squabble usually took place as they selected and fought over their roosting places.

Soon only a few individuals were heard as they uttered their plaintive calls; but in a short time this also died away and no sign remained to tell of the large number of birds so near.

Further notes were made on the habits and behavior, but these details have already been fully described in Mr. Brewster's paper, which the reader will find to be a most entertaining account.

Sioux City, Iowa

¹ Wils. Bull., 9, 1897, pp. 39-56.